Introduction to NHSN

Basics of Infection Prevention
2-Day Mini-Course
October-November 2011

Objectives

- Introduce NHSN, the National Healthcare Safety Network
- Describe key terms
- Discuss NHSN as both a surveillance system and the web-based platform used in California to achieve public reporting

What is NHSN?

- Began as a national voluntary, confidential surveillance system for monitoring health-associated events
  - Initial focus: risk-adjusted infection rates in patients -and- management of HCW bloodborne disease exposures
  - Expansion: non-infectious events and more care settings
- Accessed through a secure, web-based interface
- Open to all US healthcare facilities at no charge

NHSN Strengths

- Provides standards for surveillance across healthcare facilities

- Data risk-adjusted for comparison to national data

- Web-based; data housed remotely; data quality checks

- Surveillance data analysis tools built into system

- Increasing adaptation to electronic reporting using national health record standards (e.g. HL7, CDA)

- Expandable to many health care settings

NHSN Limitations

- NHSN experience is with voluntary reporting

- Data validation methods in development

- Requires following all NHSN protocols (detailed, lengthy)

- Not easily integrated with electronic medical record for data import

- While training and support is provided by NHSN, its use is not as intuitive as initially assumed or hoped

NHSN for Mandatory Reporting

- Use required by CMS for reporting specific infections for Medicare and Medicaid reimbursement

- Use required by CDPH to meet state-mandated HAI reporting requirements

CMS Requirements for NHSN Reporting

8/1/2011

HAI Event	Facility Type	Start Date
CLABSI	Hospitals, All ICUs (Adult, Peds, NICU)	January 2011
CAUTI	Hospitals, Adult and Pediatric ICUs	January 2012
SSI	Hospitals, Colon surgery, Abd hyst	January 2012
I.V. antimicrobial start *(proposed)*	Dialysis Facilities	January 2012
Positive blood culture *(proposed)*	Dialysis Facilities	January 2012
Signs of vascular access inf *(proposed)*	Dialysis Facilities	January 2012
CAUTI	Inpatient Rehabilitation Facilities	October 2012
CLABSI *(proposed)*	Long Term Care Hospitals	October 2012
CAUTI *(proposed)*	Long Term Care Hospitals	October 2012
MRSA Bacteremia	Acute Care Hospitals, Facility-wide	January 2013
C. difficile LabID Event	Acute Care Hospitals, Facility-wide	January 2013
HCW Influenza Vaccination	Acute Hospitals, OP Surgery, ASCs	January 2013
SSI *(proposed)*	Outpatient Surgery/ASCs	January 2014

California Requirements for NHSN Reporting

HAI Event	General Acute Care Hospitals	Start Date
CLIP	All ICUs	July 2008
CLABSI	Facility-wide	April 2010
CDI	LabID, Facility-wide	April 2010
MRSA Bloodstream infection	General Acute Care Hospitals LabID, Facility-wide	April 2010
VRE Bloodstream infection	General Acute Care Hospitals LabID, Facility-wide	April 2010
SSI	General Acute Care Hospitals, CABG, Hip prosthesis	April 2011
SSI	29 Procedures per AFL 11-32	June 2011

NHSN Data Access

- Facilities own their NHSN surveillance data
  - May edit at any time to improve accuracy, completeness

- Facilities sign a data use agreement with CDC to allow CMS access to specific NHSN data

- Facilities can join one or more NHSN Group
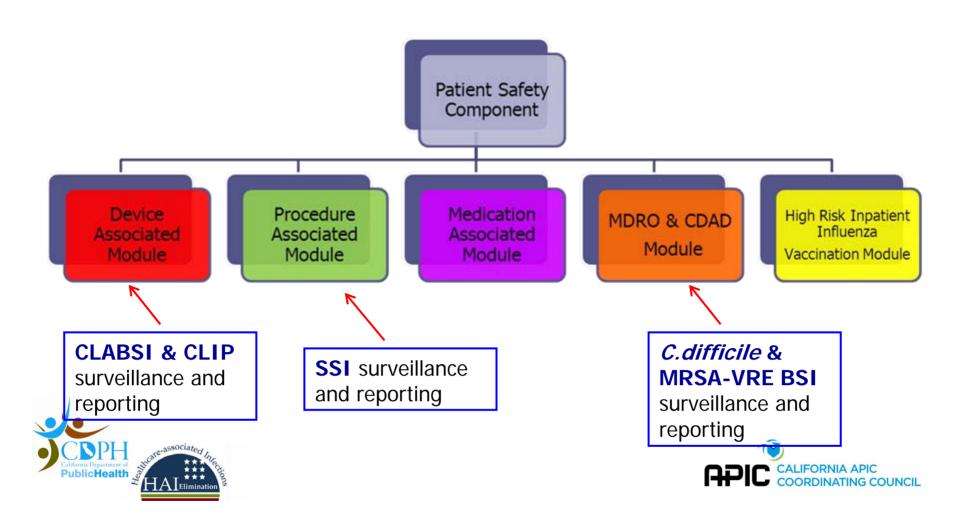 - CDPH (required to join), healthcare organization (e.g. Sutter, Kaiser), QIO-HSAG, CHART, others

  Facilities confer rights for data access to the Group

  - CDPH accesses data required by statute

    Facilities within Group cannot see each other's data

National Healthcare Safety Network (NHSN)

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People. Saving Money through Prevention.

SEARCH

A-Z Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

National Healthcare Safety Network (NHSN)

The National Healthcare Safety Network (NHSN) is a secure, internet-based surveillance system that integrates and expands legacy patient and healthcare personnel safety surveillance systems managed by the Division of Healthcare Quality Promotion (DHQP) at CDC. NHSN also includes a new component for hospitals to monitor adverse reactions and incidents associated with receipt of blood and blood products. Enrollment is open to all types of healthcare facilities in the United States, including acute care hospitals, long term acute care hospitals, psychiatric hospitals, rehabilitation hospitals, outpatient dialysis centers, ambulatory surgery centers, and long term care facilities. For more information, click on the topics below.

Replay ↻

ialysis Module
ections are a leading cause of death… GO»

NHSN Training

SIR Reports

Dialysis Module

Text size: S M L XL
- Email page
- Print page
- Bookmark and share

Get email updates
To receive email updates about NHSN, enter your email address:

What's this?   Submit

Topics

Join NHSN
Welcome to NHSN, CMS Hospital Inpatient Quality Reporting Program Training…

Enrollment Requirements
Eligibility, Required Training, Reporting & System Requirements, Security, Begin Enrollment…

About NHSN
Overview, Purposes, Confidentiality statement, How data are used, External Peer Review report…

Training
Self-study slide sets and corresponding materials for NHSN modules…

Forms
Component-specific manuals containing data collection protocols, instructions for completing forms…

Patient Safety Component
Overview of the Modules: Device-associated, Procedure-associated, MDRO/CDAD, Vaccination…

NHSN Manuals
Component-specific manuals containing data collection protocols, instructions for completing forms…

Biovigilance Component
Hemovigilance Module Overview, Protocol and Tables of Instructions, Frequently Asked Questions…

Resource Library
Guides, Component Manuals, NHSN Codes & Variables, Protocols, Metrics, Frequently Asked Questions, HIPAA…

Healthcare Personnel Safety Component
Overview, Benefits of Participation, Management, Vaccination Modules…

Vaccination Module Update
The **HRIIV Module** has been replaced with the **Vaccination Module**. Please see Chapter 13 below.

Data & Statistics

States with Facilities Using NHSN (>3000 facilities)

CDC currently supports more than 3000 hospitals that are using NHSN and 22 states require hospitals to report HAI's using NHSN.

More Data & Statistics »

Clinical Document Architecture

CDA Clinical Document Architecture

Clinical Document Architecture (CDA) is a Health Level 7 (HL7) standard which provides framework for format of

Contact NHSN:

Centers for Disease Control and Prevention
National Healthcare Safety Network
MS-A24
1600 Clifton Rd
Atlanta, GA 30333

800-CDC-INFO
(800-232-4636)
TTY: (888) 232-6348
New Hours of Operation
8am-8pm ET/Monday-Friday
Closed Holidays

nhsn@cdc.gov

More contact info »

CDC Safe Healthcare BLOG

Join the conversation

GET SMART

Communication Updates
E-mail updates
Members meetings
Newsletters

NHSN
National Healthcare Safety Network

NHSN Annual Report: 2009 Data
[PDF - 3.33 MB]

NHSN Protocols

- *Know them!*
- *Use them!*

NHSN Patient Safety Component Manual

NHSN Forms Update

Vaccination Module Update
The **HRIIV Module** has been replaced with the **Vaccination Module**. Please see Chapter 13 below.

Key Terms

NHSN inpatient
- Patient whose date of admission to the facility and date of discharge are different days

CDC Location / 80% rule
- Designation given to a patient care area housing patients who... are receiving care for similar medical or surgical specialties
- Determined by type of patients cared for in that area according to the **80% Rule**
  - if 80% of patients are of a certain type (e.g., critical burn patients), area is designated as that type of location (e.g. burn ICU)

Device day

- □ Daily count of patients with a specific device (e.g. central line, ventilator, foley)
- □ At the end of month, sum the daily counts
- □ Device days should be collected at the same time each day
- □ If from electronic data, counts should be within +/- 5% from manual counts

48-hour transfer rule

- □ If HAI develops within 48 hours of transfer from one inpatient location to another, infection is attributed to transferring (previous) location
- □ Likewise if HAI develops within 48 hours of discharge or transfer from one facility to another

Plus many more at www.cdc.gov/nhsn
See "Key Terms" in Patient Safety Manual

In NHSN, infection is <u>not</u>

- **<u>Colonization</u>** (presence of microorganisms on skin, mucous membranes, in open wounds, or in excretions or secretions but are not causing adverse clinical signs or symptoms)
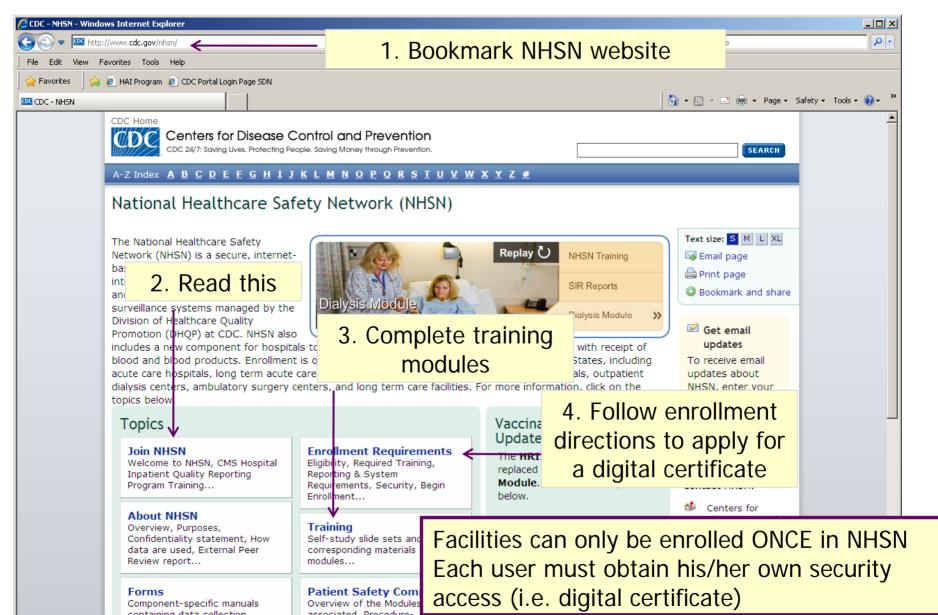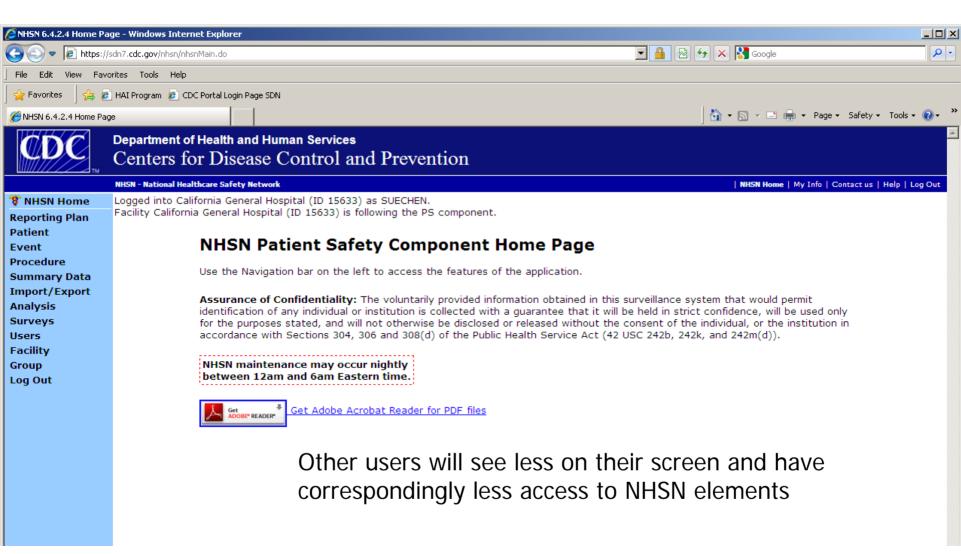
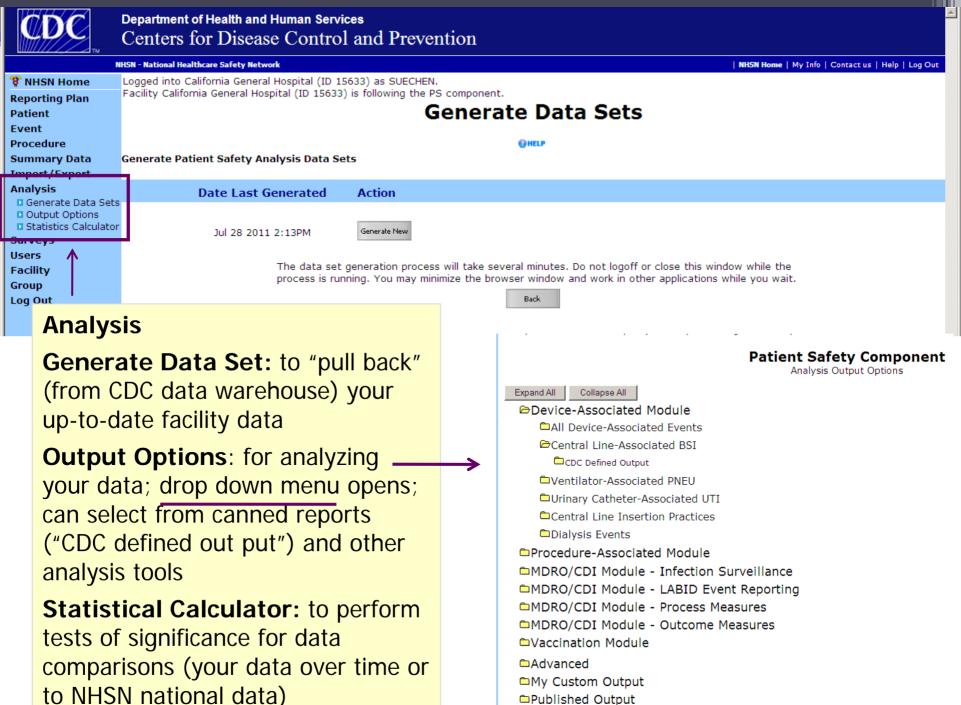# Difference Between Clinical and Surveillance Definitions

❑ **Clinical criteria used by physicians for patient care and management may differ from surveillance criteria**

- Clinical
  - Patient centered
  - Used for therapeutic decisions
- Surveillance
  - Population based
  - Applied exactly the same way each time
  - Physician diagnosis of infection is acceptable for some infections

How to Join NHSN

1. Bookmark NHSN website

2. Read this

3. Complete training modules

4. Follow enrollment directions to apply for a digital certificate

Facilities can only be enrolled ONCE in NHSN
Each user must obtain his/her own security access (i.e. digital certificate)

NHSN Facility Home Page

Other users will see less on their screen and have correspondingly less access to NHSN elements

NHSN - National Healthcare Safety Network | NHSN Home | My Info | Contact us | Help | Log Out

NHSN Home
Reporting Plan
Patient
Event
Procedure
Summary Data
~~Import/Export~~
Analysis
  ▶ Generate Data Sets
  ▶ Output Options
  ▶ Statistics Calculator
~~Surveys~~
Users
Facility
Group
Log Out

Logged into California General Hospital (ID 15633) as SUECHEN.
Facility California General Hospital (ID 15633) is following the PS component.

Generate Data Sets

❓HELP

Generate Patient Safety Analysis Data Sets

Date Last Generated	Action
Jul 28 2011 2:13PM	Generate New

The data set generation process will take several minutes. Do not logoff or close this window while the process is running. You may minimize the browser window and work in other applications while you wait.

Back

Patient Safety Component
Analysis Output Options

Expand All   Collapse All

📂Device-Associated Module
    📂All Device-Associated Events
    📂Central Line-Associated BSI
        📁CDC Defined Output
    📁Ventilator-Associated PNEU
    📁Urinary Catheter-Associated UTI
    📁Central Line Insertion Practices
    📁Dialysis Events
📁Procedure-Associated Module
📁MDRO/CDI Module - Infection Surveillance
📁MDRO/CDI Module - LABID Event Reporting
📁MDRO/CDI Module - Process Measures
📁MDRO/CDI Module - Outcome Measures
📁Vaccination Module
📁Advanced
📁My Custom Output
📁Published Output

Analysis

Generate Data Set: to "pull back" (from CDC data warehouse) your up-to-date facility data

Output Options: for analyzing your data; drop down menu opens; can select from canned reports ("CDC defined out put") and other analysis tools

Statistical Calculator: to perform tests of significance for data comparisons (your data over time or to NHSN national data)

Patient Safety Component
Analysis Output Options

Expand All | Collapse All

🗁 Device-Associated Module

　🗀 All Device-Associated Events

　🗁 Central Line-Associated BSI

　　🗁 CDC Defined Output

➡️ 🗎 Line Listing – All CLAB Events　[Run] [Modify]

　　　🗎 Frequency Table – All CLAB Events　[Run] [Modify]

　　　📊 Bar Chart – All CLAB Events　[Run] [Modify]

　　　🥧 Pie Chart – All CLAB Events　[Run] [Modify]

　　　🗎 Rate Table – CLAB Data for ICU-Other　[Run] [Modify]

　　　📈 Control Chart – CLAB Data for ICU-Other　[Run] [Modify]

　　　🗎 Rate Table – UCAB/CLAB Data for NICU　[Run] [Modify]

　　　📈 Control Chart – UCAB/CLAB Data for NICU　[Run] [Modify]

　　　🗎 Rate Table – CLAB Data for S

　　　📈 Control Chart – CLAB Data for

　　🗀 Custom Output

　🗀 Ventilator-Associated PNEU

　🗀 Urinary Catheter-Associated UTI

　🗀 Central Line Insertion Practices

　🗀 Dialysis Events

CDC Defined Output options

CDC Defined Output: Line Listing

National Healthcare Safety Network

Line Listing for All Central Line-Associated BSI Events

As of: November 3, 2009 at 9:04 AM

Date Range: All CLAB_EVENTS

orgID	patID	dob	gender	admitDate	eventID	eventDate	eventType	spcEvent	location
10018	7425	09/22/1961	M	06/06/2005	1676	06/11/2005	BSI	LCBI	BMT
10018	MD-4937	09/19/1922	F	05/30/2005	1678	06/21/2005	BSI	LCBI	BMT
10018	85613	04/18/1951	M	07/08/2005	1685	07/13/2005	BSI	LCBI	S-ICU
10018	10222	01/04/1978	F	08/01/2005	1927	08/08/2005	BSI	LCBI	MICU
10018	01-88-145	10/07/1939	M	03/17/2006	3321	03/21/2006	BSI	LCBI	S-ICU
10018	122-501	02/29/1952	M	02/21/2006	4265	02/23/2006	BSI	LCBI	S-ICU
10018	34-22-100	03/22/1940	M	03/12/2006	4789	03/20/2006	BSI	LCBI	MICU
10018	86-990-01	12/12/1926	M	03/10/2006	4798	03/14/2006	BSI	LCBI	S-ICU
10018	26-22-678	03/28/2006	M	03/28/2006	4800	03/31/2006	BSI	LCBI	NICU
10018	32-54-731	02/21/1959	M	03/06/2006	4820	03/09/2006	BSI	LCBI	S-ICU
10018	13-19	04/18/1934	F	03/07/2006	4821	03/16/2006	BSI	LCBI	MICU
10018	44-18-004	08/16/1944	F	02/11/2006	4824	02/21/2006	BSI	LCBI	MICU

CDPH California Department of PublicHealth

HAI Elimination Healthcare-associated Infections

CDC Defined Output: Line Listing

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Rate Table for Central Line-Associated BSI Data for ICU-Other												
2	Date Range: All CLAB_RATESICU												
3	Location	Summary Yr/Mon	CLA BSI Count	Central Line Days	CLA BSI Rate	NHSN CLAB Pooled Mean	Incidence Density p-value	Incidence Density Percentile	Patient Days	CL Util Ratio	NHSN Line DUPooled Mean	Proportion p-value	Proportion Percentile
4	Z-ICU	2010M07	0	250	0	1.5	0.6928	25	450	0.56	0.51	0.0182	72
5	Z-ICU	2010M08	4	300	13.3	1.5	0.0011	100	400	0.75	0.51	0	93
6	Z-ICU	2010M09	1	300	3.3	1.5	0.3562	87	325	0.92	0.51	0	96
7	Z-MED/SURG	2010M07	0	275	0	1.2	0.7218	50	400	0.69	0.16	0	100
8	Z-MED/SURG	2010M08	0	250	0	1.2	0.7435	50	425	0.59	0.16	0	100
9	Z-MED/SURG	2010M09	0	300	0	1.2	0.7007	50	550	0.55	0.16	0	100
10	Source of aggregate data: NHSN Report					Am J Infect Control 2009;37:783-805							

NHSN help is available from CDPH HAI Program

www.cdph.ca.gov/hai

Includes tailored guides, slide sets, implementation tools

Home > Programs > Healthcare Associated Infections Program > **NHSN Guidance Specific to California Hospitals**

NHSN Guidance Specific to California Hospitals

Information for IPs

- » SSI Surveillance and Reporting_July 2011.pdf
- » Using NHSN Analysis and SIR_July 2011 .pdf
  8MB
- » Procedure Import for SSI Surv_July 2011.pdf
- » SSI Procedure Data Entry GUIDE (PDF, 5.8MB, New Window)
- » Copy of Procedure Import WORKBOOK (Excel, New Window)
- » How to Reassign Your NHSN Facility Administrator (PDF)
- » California Monthly NHSN Reporting Requirements (PDF, New Window)
- » CDPH Guide to Correctly Conferring Rights as of July 2010 (PDF, New Window)
- » NHSN Set-up Guide (PDF, New Window)

Resources

- » HAI Program Home Page

Check back regularly for new materials!

August 20, 2010

NHSN Guide for California Hospitals: Setting-Up and Getting Started

California Department of Public Health
Healthcare-Associated Infections (HAI) Program

This guide was developed to be used as a script for NHSN training demos and workshops. It is not intended to be comprehensive, but rather an outline describing an orderly approach to NHSN set-up and system basics.

The primary learning objectives of today's demo are to 1) familiarize you (the learner) with the NHSN system and web-interface, and 2) prepare your hospital for meeting California HAI mandatory reporting requirements.

California requires acute care hospitals to report through NHSN

- CLIP (ICU and level II nurseries only)

- CLABSI

- MRSA BSI

- VRE BSI and

- *C difficile* (CDAD / CDI)

CALIFORNIA APIC
COORDINATING COUNCIL

In Summary

- NHSN is a surveillance system
  - It is also the platform for recording data, analyzing data, and reporting data to meet regulatory requirements

- This slide set provides only an introduction to NHSN
  - Intent was not to provide every detail (you wouldn't remember anyway)
  - Enough information to get you started
  - Available resources

- The best way to begin NHSN surveillance?
  - Take a deep breath and just start
  - Find a mentor
  - Consult with your designated HAI Program Liaison IP

Questions?

For more information, please contact any
HAI Liaison Team member

Thank you